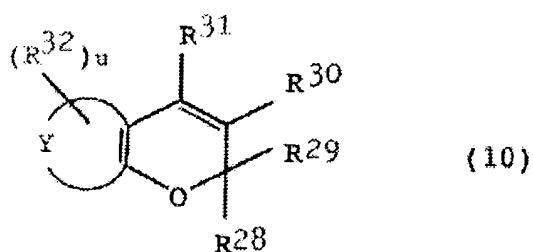


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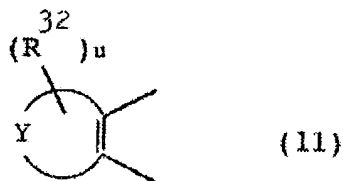
1. A curable composition which, when cured, exhibits an L-scale Rockwell hardness of not smaller than 60, comprising:
- A) a polymerizable monomer which, when homopolymerized, exhibits the L-scale Rockwell hardness of not larger than 40;
- B) a polyfunctional polymerizable monomer which is trifunctional or more highly functional and which, when homopolymerized, exhibits the L-scale Rockwell hardness of not smaller than 60;
- C) a bifunctional polymerizable monomer which, when homopolymerized, exhibits the L-scale Rockwell hardness of not smaller than 60; and
- D) a photochromic compound.
2. A curable composition according to claim 1, wherein the photochromic compound D) has a molecular weight of not smaller than 540.
3. A curable composition according to claim 1, wherein the photochromic compound D) is the one represented by the following general formula (10),



- wherein a group represented by the following formula (11)

Art Unit: ***

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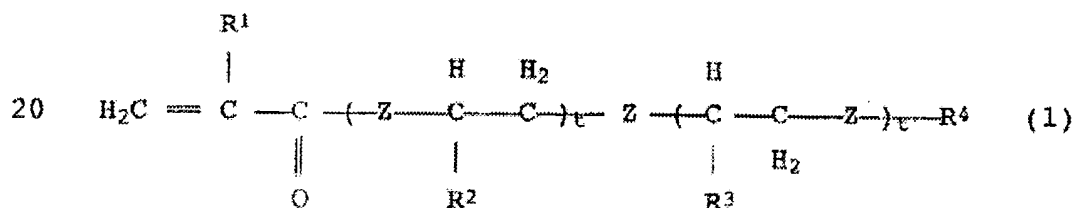


4. (Amended) A curable composition according to claim 1, wherein the polymerizable monomer A) which, when homopolymerized, exhibits an L-scale Rockwell hardness of not larger than 40, is at least one kind of a polymerizable monomer selected from the compounds which satisfy the requirements of L-scale Rockwell hardness of the polymers obtained through the homopolymerization, and which belong to the group consisting of:

- (I) an ethylenic monofunctional unsaturated monomer;
- (II) a polyalkylene glycol polymerizable monomer or a polyalkylenethio glycol polymerizable monomer of which either a hydroxyl group or a mercapto group at the terminal is substituted by methacryloyloxy group, acryloyloxy group, vinylbenzyloxy group, isopropenylbenzyloxy group, vinylbenzylcarbamoyl group, isopropenylbenzylcarbamoyl group or vinyloxy group, and of which other group is not substituted or is substituted by methacryloyloxy group, acryloyloxy group, alkyloxy group, alkoxyalkyloxy group, aryloxy group, acyloxy group, alkyloxy group having an epoxy group at the terminal thereof, haloalkyloxy group or oleoyloxy group;
- (III) a substituted or unsubstituted alkylacrylate, or a substituted or unsubstituted long-chain alkylmethacrylate; (IV) a hydrocarbon chain (meth)acrylate having an unsaturated bond;
- (V) a compound having at least one epoxy group in the molecule but without a radically polymerizable group in the molecule; and
- (VI) a compound having at least one thioepoxy group in the molecule but without a radically polymerizable group in the molecule.

Art Unit: ***

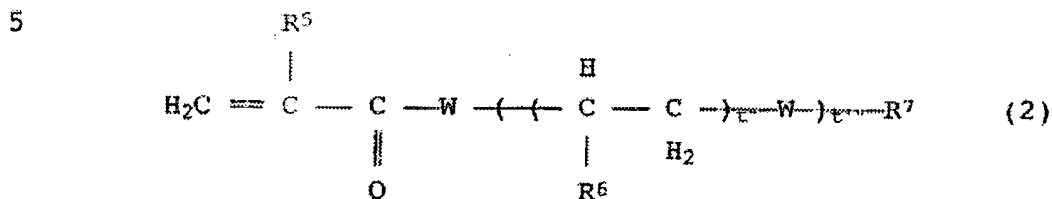
5. A curable composition according to claim 4,
 wherein the polyalkylene glycol polymerizable monomer or
 the polyalkylenethio glycol polymerizable monomer (II) of
 5 which either a hydroxyl group or a mercapto group at the
 terminal is substituted by methacryloyloxy group,
 acryloyloxy group, vinylbenzyloxy group,
 isopropenylbenzyloxy group, vinylbenzylcarbamoyl group,
 isopropenylbenzylcarbamoyl group or vinyloxy group, and of
 10 which other group is not substituted or is substituted by
 methacryloyloxy group, acryloyloxy group, alkyloxy group,
 alkoxyalkyloxy group, aryloxy group, acyloxy group,
 alkyloxy group having an epoxy group at the terminal
 thereof, haloalkyloxy group or oleyloxy group,
 15 is a compound represented by the following general formula
 (1),



- wherein R^1 , R^2 and R^3 are, independently from each
 25 other, hydrogen atoms or alkyl groups having 1 to 2
 carbon atoms, R^4 is a hydrogen atom, an alkyl group,
 an alkoxyalkyl group, an aryl group, an acyl group,
 an alkyl group having an epoxy group at the terminal,
 a methacryloyl group, an acryloyl group, a haloalkyl
 30 group or an oleyl group, Z is an oxygen atom or a
 sulfur atom, t and t' are, independently from each
 other, 0 to 70 in average, $t + t'$ is 7 to 70 when R^1
 is an alkyl group and R^4 is a methacryloyl group, $t +$
 t' is 4 to 70 when R^1 is an alkyl group and R^4 is a
 35 group other than the methacryloyl group and acryloyl

Art Unit: ***

group, and $t + t'$ is 1 to 70 when R^1 is a hydrogen atom,
or is a compound represented by the following formula (2),



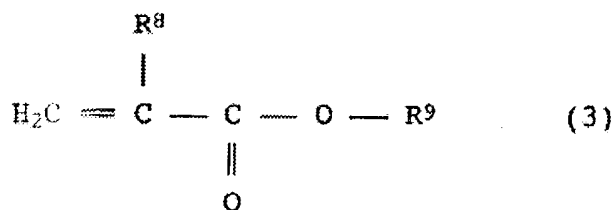
wherein R^5 and R^6 are the same as R^1 , R^2 and R^3 described above, R^7 is the same as R^4 described above, W is the same as Z described above, t'' is an integer of 2 to 8, t''' is 7 to 40 when R^5 is an alkyl group and R^7 is a methacryloyl group, t''' is 4 to 40 when R^5 is an alkyl group and R^7 is a group other than the methacryloyl group and the acryloyl group, and t''' is 1 to 40 when R^5 is a hydrogen atom.

6. A curable composition according to claim 5,
20 wherein in the general formula (1), $t + t'$ is 8 to 10 when R^1 is an alkyl group and R^4 is a methacryloyl group, $t + t'$ is 4 to 23 when R^1 is an alkyl group and R^4 is a group other than the methacryloyl group or the acryloyl group, and $t + t'$ is 1 to 10 when R^1 is a hydrogen atom.

25 7. A curable composition according to claim 5,
wherein in the general formula (2), t''' is 8 to 10 when R^5 is an alkyl group and R^7 is a methacryloyl group, t''' is 4 to 23 when R^5 is an alkyl group and R^7 is a group other than the methacryloyl group and the acryloyl group, and
30 t''' is 1 to 10 when R^5 is a hydrogen atom.

8. A curable composition according to claim 4,
wherein the substituted or unsubstituted alkyl acrylate, or the substituted or unsubstituted long-chain alkyl methacrylate (III), is a compound represented by the
35 following general formula (3),

Art Unit: ***

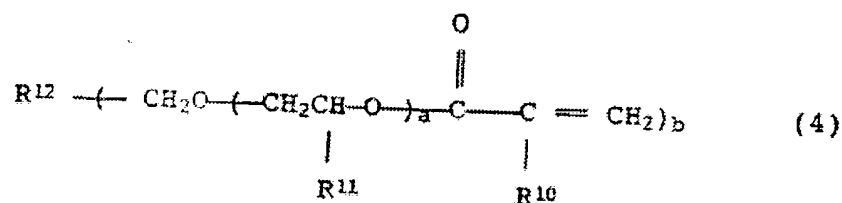


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wherein R^8 is a hydrogen atom or a methyl group, and
 when R^8 is a hydrogen atom, R^9 is a substituted or
 unsubstituted alkyl group having 1 to 40 carbon atoms
 and when R^8 is a methyl group, R^9 is a substituted or
 unsubstituted alkyl group having 8 to 40 carbon
 atoms.

10

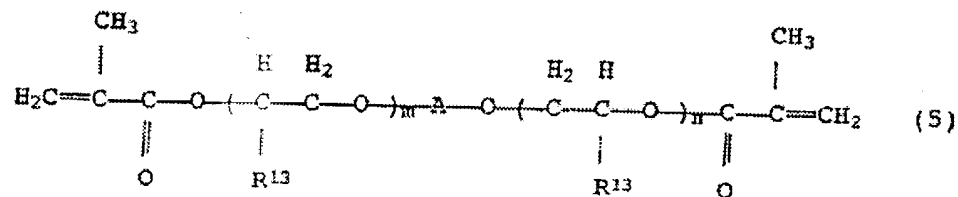
9. (Amended) A curable composition according to claim 1,
 wherein the polyfunctional polymerizable monomer B) which, when
 homopolymerized, exhibits an L- scale Rockwell hardness of not
 smaller than 60 is a compound represented by the following
 general formula (4),



wherein R^{10} and R^{11} are, independently from each other, hydrogen

Art Unit: ***

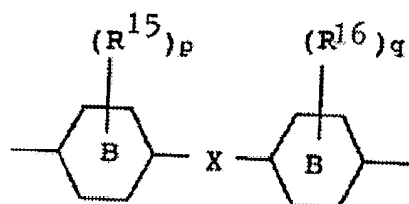
10. (Amended) A curable composition according to claim 1, wherein the bifunctional polymerizable monomer C) which, when homopolymerized, exhibits an L- scale Rockwell hardness of not smaller than 60, is a compound represented by the following general formula (5)



wherein R^{13} and R^{14} are, independently from each other, hydrogen atoms or alkyl groups having 1 to 2 carbon atoms, A is a straight-chain or branched-chain alkylene group, a substituted or unsubstituted phenylene group, a group represented by the following formula,



or a group represented by the following formula,



wherein R^{15} and R^{16} are, independently from each other, alkyl groups having 1 to 4 carbon atoms, chlorine atoms or bromine atoms, p and q are, independently from each other, integers of 0 to 4, a ring represented by the following formula

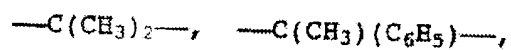
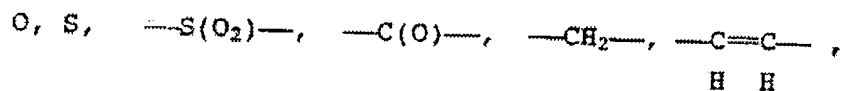
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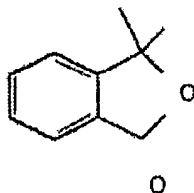
is a benzene ring or a cyclohexane ring, and when the ring represented by the following formula



is a benzene ring, X is any one of the groups represented by the following formulas



or a group represented by the formula



and when the ring represented by the following formula



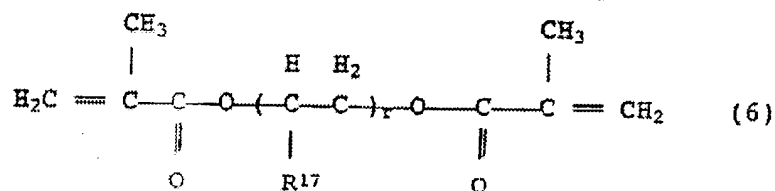
is a cyclohexane ring, X is anyone of the groups represented by the following formulas



and m and n are not smaller than 1, respectively, and m + n is 2 to 6 in average,

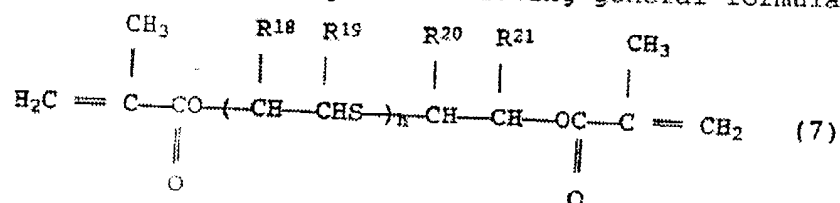
Art Unit: ***

is a compound represented by the following general formula (6)



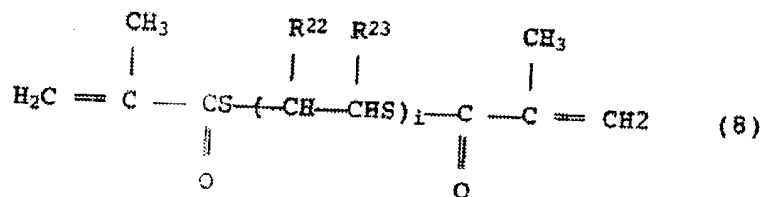
wherein R^{17} is a hydrogen atom or an alkyl group having 1 to 2 carbon atoms, and r is 1 to 6 in average,

is a compound represented by the following general formula (7),



wherein R^{18} , R^{19} , R^{20} and R^{21} are the same or different, and are hydrogen atoms or methyl groups, and h is an integer of 1 to 10,

or is a compound represented by the following general formula (8),



wherein R^{22} and R^{23} are the same or different, and are hydrogen atoms or methyl groups, and i is an integer of 1 to 10.

11. (Amended) A curable composition according to claim 1, wherein, on the basis of the total mass of the components A), B) and C),

the content of the component A) is from 1 to 50% by mass;

the total mass of the components B) and C) is from 50 to 99%

Art Unit: ***

by mass; and on the basis of the total mass of the components B) and C)

the content of the component B) is from 2 to 50% by mass;

and

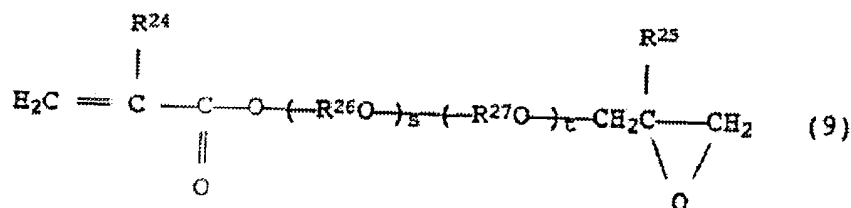
the content of the component C is from 50 to 98% by mass.

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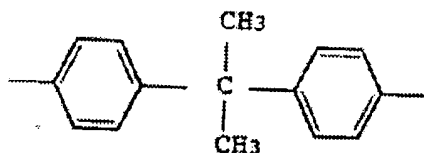
12. A curable composition according to claim 1, wherein the whole polymerizable monomer contained in the curable composition contains a polymerizable monomer having at least one epoxy group in an amount of 0.01 to 40% by mass.

Art Unit: ***

13. (Amended) A curable composition according to claim 12, wherein the polymerizable monomer having at least one epoxy group is a compound represented by the following general formula (9),



wherein R^{24} and R^{25} are, independently from each other, hydrogen atoms or methyl groups, R^{26} and R^{27} are, independently from each other, alkylene groups which may be substituted by a hydroxy group and having 1 to 4 carbon atoms, or groups represented by the formula



and s and t are, respectively, 0 to 20 in average.

14. (Amended) A curable composition according to claim 12, wherein the compound having at least one epoxy group is a glycidyl methacrylate.

15. (Amended) A curable composition according to claim 1, wherein the photochromic compound D) is contained in an amount of from 0.001 to 5 parts by weight per 100 parts by weight of the whole polymerizable monomers.

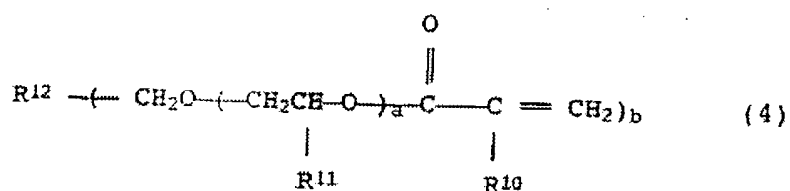
16. (Amended) A photochromic cured product obtained by curing the curable composition of claim 1.

Art Unit: ***

17. A photochromic cured product of claim 16, which is a lens.

18. A photochromic cured product of claim 16, which is a coated layer on the lens.

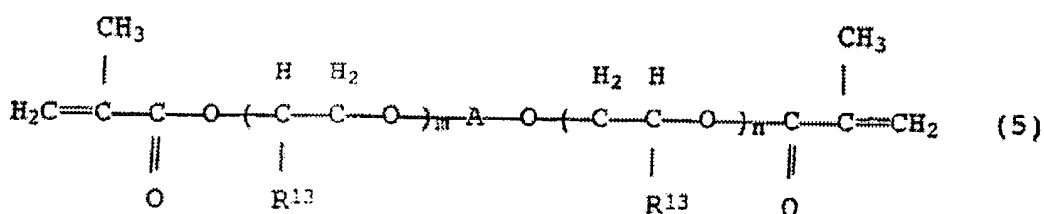
--19. (New) A curable composition according to claim 4, wherein the polyfunctional polymerizable monomer B) which, when homopolymerized, exhibits an L- scale Rockwell hardness of not smaller than 60 is a compound represented by the following general formula (4),



wherein R^{10} and R^{11} are, independently from each other, hydrogen atoms or alkyl groups having 1 to 2 carbon atoms, R^{12} is a trivalent to hexavalent organic residue, a is 0 to 3 in average, and b is an integer of 3 to 6.

20. (New) A curable composition according to claim 4, wherein the bifunctional polymerizable monomer C) which, when homopolymerized, exhibits an L- scale Rockwell hardness of not smaller than 60, is a compound represented by the following general formula (5)

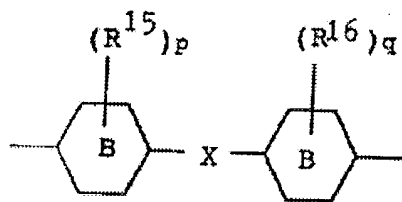
Art Unit: ***



wherein R^{13} and R^{14} are, independently from each other, hydrogen atoms or alkyl groups having 1 to 2 carbon atoms, A is a straight-chain or branched-chain alkylene group, a substituted or unsubstituted phenylene group, a group represented by the following formula,



or a group represented by the following formula,



wherein R^{15} and R^{16} are, independently from each other, alkyl groups having 1 to 4 carbon atoms, chlorine atoms or bromine atoms, p and q are, independently from each other, integers of 0 to 4, a ring represented by the following formula

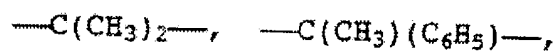
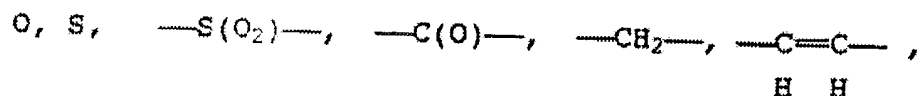
Art Unit: ***



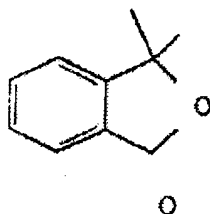
is a benzene ring or a cyclohexane ring, and when the ring represented by the following formula



is a benzene ring, X is any one of the groups represented by the following formulas



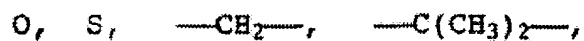
or a group represented by the formula



and when the ring represented by the following formula



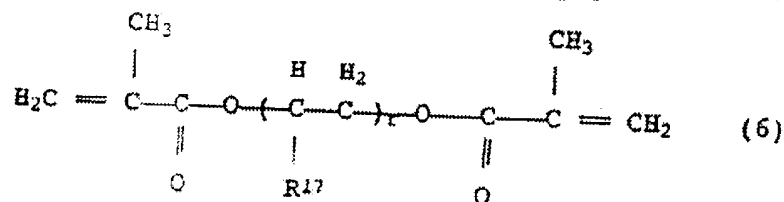
is a cyclohexane ring, X is anyone of the groups represented by the following formulas



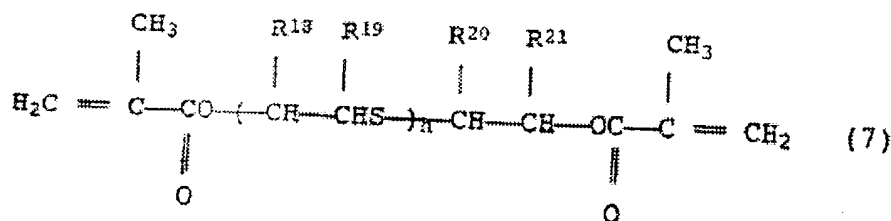
Art Unit: ***

and m and n are not smaller than 1, respectively, and m + n is 2 to 6 in average,

is a compound represented by the following general formula (6)

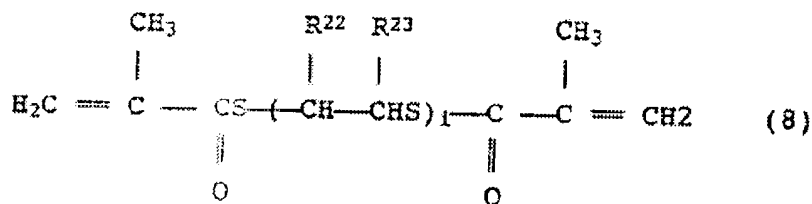


wherein R^{17} is a hydrogen atom or an alkyl group having 1 to 2 carbon atoms, and r is 1 to 6 in average,
is a compound represented by the following general formula (7),



wherein R^{18} , R^{19} , R^{20} and R^{21} are the same or different, and are hydrogen atoms or methyl groups, and h is an integer of 1 to 10,

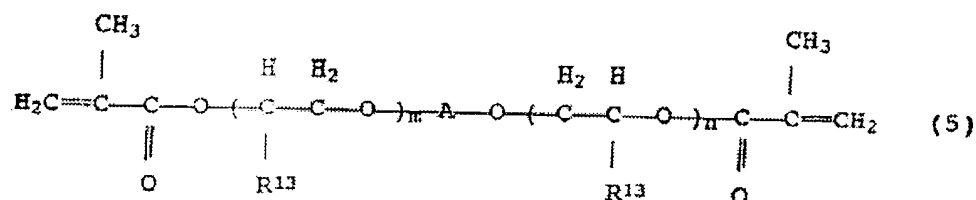
or is a compound represented by the following general formula (8),



wherein R^{22} and R^{23} are the same or different, and are hydrogen atoms or methyl groups, and i is an integer of 1 to 10.

Art Unit: ***

21. (New) A curable composition according to claim 19, wherein the bifunctional polymerizable monomer C) which, when homopolymerized, exhibits an L- scale Rockwell hardness of not smaller than 60, is a compound represented by the following general formula (5)



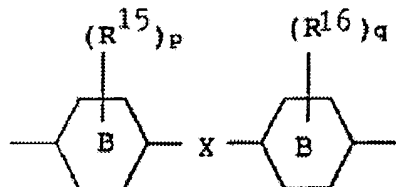
wherein R^{13} and R^{14} are, independently from each other, hydrogen atoms or alkyl groups having 1 to 2 carbon atoms, A is a straight-chain or branched-chain alkylene group, a substituted or unsubstituted phenylene group, a group

Art Unit: ***

represented by the following formula,



or a group represented by the following formula,



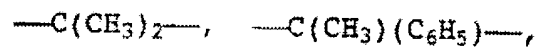
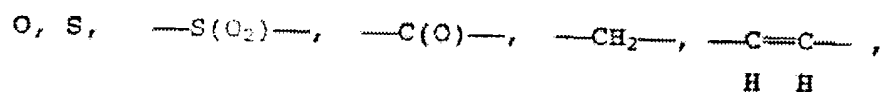
wherein R^{15} and R^{16} are, independently from each other, alkyl groups having 1 to 4 carbon atoms, chlorine atoms or bromine atoms, p and q are, independently from each other, integers of 0 to 4, a ring represented by the following formula



is a benzene ring or a cyclohexane ring, and when the ring represented by the following formula

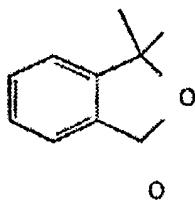


is a benzene ring, X is any one of the groups represented by the following formulas



or a group represented by the formula

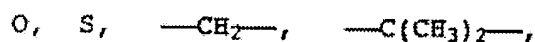
Art Unit: ***



and when the ring represented by the following formula

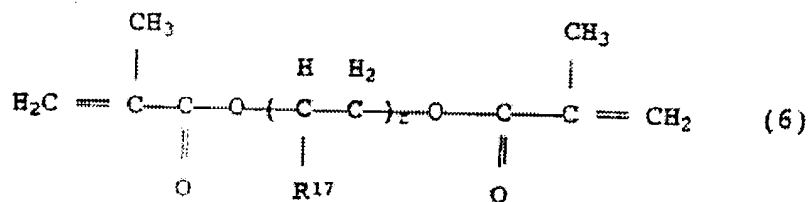


is a cyclohexane ring, X is anyone of the groups represented by the following formulas



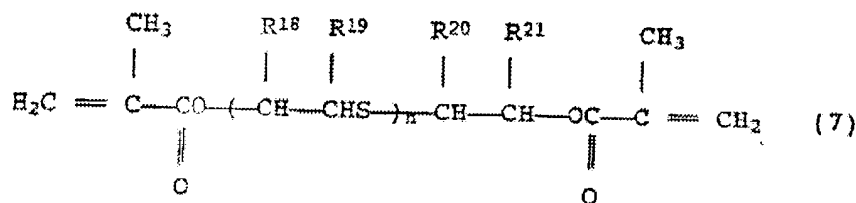
and m and n are not smaller than 1, respectively, and m + n is 2 to 6 in average,

is a compound represented by the following general formula (6)



wherein R^{17} is a hydrogen atom or an alkyl group having 1 to 2 carbon atoms, and r is 1 to 6 in average,

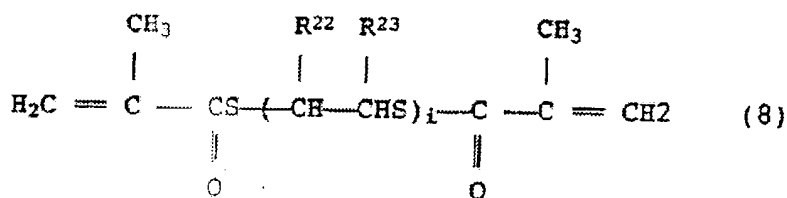
is a compound represented by the following general formula (7),



wherein R^{18} , R^{19} , R^{20} and R^{21} are the same or different, and are hydrogen atoms or methyl groups, and h is an integer of 1 to 10,

or is a compound represented by the following general formula (8),

Art Unit: ***



wherein R^{22} and R^{23} are the same or different, and are hydrogen atoms or methyl groups, and i is an integer of 1 to 10.

22. (New) A curable composition according to claim 21, wherein, on the basis of the total mass of the components A), B) and C),

the content of the component A) is from 1 to 50% by mass;

the total mass of the components B) and C) is from 50 to 99% by mass; and on the basis of the total mass of the components B) and C)

the content of the component B) is from 2 to 50% by mass;

and

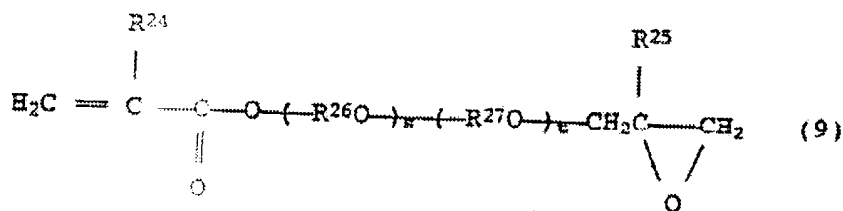
the content of the component C is from 50 to 98% by mass.

23. (New) A curable composition according to claim 11, wherein the whole polymerizable monomer contained in the curable composition contains a polymerizable monomer having at least one epoxy group in an amount of from 0.01 to 40% by mass and, preferably, from 0.1 to 30% by mass.

24. (New) A curable composition according to claim 22, wherein the whole polymerizable monomer contained in the curable composition contains a polymerizable monomer having at least one epoxy group in an amount of from 0.01 to 40% by mass and, preferably, from 0.1 to 30% by mass.

25. (New) A curable composition according to claim 21, wherein the polymerizable monomer having at least one epoxy group is a compound represented by the following general formula (9),

Art Unit: ***



Application/Control Number: 09/787,395

Page 21

Art Unit: ***